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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,952	10/17/2005	Dirk Steinmueller	WITT3004/FJD	2625
23364 7590 10/09/2007 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			EXAMINER BARAN, MARY C	
			ART UNIT 2857	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/525,952

Applicant(s)

STEINMUELLER ET AL.

Examiner

Mary C. Baran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Specification***

1. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18 and 23-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites, "a function is specified and used for a particular sensor"; however, it is not clear from the claim language which sensor or sensors are used for the specified function.

Claim 23 recites, "displaying, and where necessary, initiating measures for maintenance"; however, it is not clear from the claim language when it is necessary to initiate maintenance.

Claim 24 recites, "determining and, where appropriate, issuing a predictive point in time"; however, it is not clear from the claim language when it is appropriate to issue a predictive point.

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Claims 25 and 26 recite, "the sensor signal, or signals, in a particular test state"; however, it is not clear from the claim language which state of the sensor is registered and evaluated.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 16-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Choe (U.S. Patent No. 6,510,397).

Referring to claim 16, Choe teaches a method for monitoring the functioning of sensors (see Choe, column 12 lines 39-41) which measure and monitor the state parameters of liquids or gases (see Choe, column 4 lines 26-30), comprising the steps of:

placing the sensor in a test state at time intervals (see Choe, column 12 lines 43-47 and lines 61-63);

registering test parameters at time intervals or at time intervals during the course of registering measured values (see Choe, column 12 lines 61-63);

storing the registered test parameters (see Choe, column 12 lines 47-50);

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evaluating a backward-looking chronological development of the stored test parameters in order to perform functional monitoring (see Choe, column 19 lines 1-65);

predicting from said evaluations the development of sensor behavior to be expected in the future (see Choe, column 14 lines 1-4); and

obtaining thereby information concerning the duration of the remaining disturbance-free operation of the sensor (see Choe, column 14 lines 4-12).

Referring to claim 17, Choe teaches that said evaluation step is conducted using non-linear interpolation methods, in order to obtain a function describing the sensor behavior (see Choe, column 19 line 13 – column 20 line 9).

Referring to claim 18, Choe teaches a function is specified and used for a particular sensor, which reproduces the experience-based sensor behavior (see Choe, column 17 lines 18-35).

Referring to claim 19, Choe teaches that the function involves a polynomial function (see Choe, column 19 lines 18-65).

Referring to claim 20, Choe teaches a first predictive value is determined for the wear limit (see Choe, column 12 lines 39-41).

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Referring to claim 21, Choe teaches testing whether the wear limit of the sensor will be reached before the next registering of test parameters (see Choe, column 14 lines 1-12).

Referring to claim 22, Choe teaches testing whether a predictively obtained value of the test parameter lies within a warning range this side of the wear limit as defined at this time (see Choe, column 16 lines 39-43).

Referring to claim 23, Choe teaches determining and issuing and displaying, and where necessary, initiating measures for maintenance on the basis of the information concerning the duration of the remaining, disturbance-free operation (see Choe, column 5 lines 35-40).

Referring to claim 24, Choe teaches determining and, where appropriate, issuing a predictive point in time for replacement of the sensor on the basis of the information concerning the duration of the remaining, disturbance-free operation (see Choe, column 1 lines 12-35).

Referring to claim 25, Choe teaches that as a test parameter, the slope of the sensor signal, or signals, in a particular test state of the sensor is registered and evaluated (see Choe, column 16 line 59 – column 17 line 17).

Referring to claim 26, Choe teaches that as a test parameter, the zero point of the sensor signal, or signals, in a particular test state of the sensor is registered and evaluated (see Choe, column 15 lines 21-33).

Referring to claim 27, Choe teaches that as a test parameter, the internal resistance of an electrode is registered and evaluated (see Choe, column 6 lines 23-26).

Referring to claim 28, Choe teaches that as a test parameter, the change of the dynamic behavior of signals produced by the sensor itself is registered and evaluated (see Choe, column 12 lines 43-47).

Referring to claim 29, Choe teaches a plurality of different test parameters are registered and evaluated (see Choe, column 13 lines 2-31).

Referring to claim 30, Choe teaches obtaining a sensor specific, basic data from a storage arrangement of the sensor or the measured value transmitter over the internet or over update media, for the evaluation (see Choe, column 9 lines 46-60).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- (a) van der Geest et al. teach a method for detecting and correcting sensor failure in oil and gas production system.
- (b) Elwood et al. teach a CO<sub>2</sub> / O<sub>2</sub> incubator predictive failure for CO<sub>2</sub> and O<sub>2</sub> sensors.
- (c) Ammann teaches a method of determining a remaining operating time of a potentiometric measuring probe, apparatus for performing the method, and use of the apparatus.
- (d) Walter et al. teach a transmitter freeze/fault detection.
- (e) Pearman et al. teach a method and apparatus for proving electronic gas meters.
- (f) Cotroneo teaches electrical energy meter having record of meter calibration data therein and method of recording calibration data.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary C. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday to Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mary Catherine Baran  
28 September 2007



JEFFREY R WEST  
EXAMINER-AU 2857